

Work Order ID 77132

77132

Page 1

November-25-11 3:12:45 PM

Item ID: D350-636-011

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Skidtube LH

Stop *NS2*

Start Date: 25/11/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: M.L.J

Date: 11/11/25 Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2750	F								
D3492	C								

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-011 CHG 006

8 12/01/23

H. G. / M.L.J 12-1-23

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 77132***77132***

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N900040100Setup Start ***NS1***

Revision ID:

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Item Name: Skidtube LH

Start Date: 25/11/2011 Start Qty: 1.00

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Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
110									
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3 Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	5- Drill only two fwd step holes using DT9616. Ensure proper positioning.								
	6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-1 details).Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8-Open up holes for Detail B to 0.375" (4 holes per side)and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750 .Open up holes for ground handling and detail C to 0.500" (8 holes per side)								
	9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".								
	10-Open up holes of Detail A to 0.297" (total of 2 holes per side)								

BB 12/01/08

BB 12/01/09

Dart Aerospace Ltd

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Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004

A/R Aluminum Rod batch: M119712

BE 12-01-09

12-Grind welds flush as per Dwg D2750

BB 12/01/09

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Sizbaler

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Sizbaler

Quality Control

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.00							
Quality Control									

W 12 01 09 (1)

1 0 BE1201-09

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Required Date: 09/12/2011 Req'd Qty: 1.00

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

0.00

160

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Open up holes of Detail C and ground handling to 0.625" (total of 8 holes per side)
as per dwg D2750.

2-Open up holes of Detail B to 0.750" (total of 4 holes per side)
as per dwg D2750.

3- Open float hole to 0.500" (4 per side)

4-Chamfer holes of Detail B, C, ground handling and float holes per dwg D2750
(welding instructions on sheet 8)

5-Deburr and blow out all chips from inside of tube

6- Prepare tube for welding, remove alodine as required.

7-Bond web D2739 in place as per QSI 015

A/R Sikaflex-291

batch: m119502

exp. date: 2012-08-13

8- Weld spacers D3490-1, D3490-3 and D2743 as per dwg D2750 & QSI004
(welding instructions on sheet 8)

A/R Aluminum Rod

batch: m119712

9- At section AJ-AJ drill out x-bolt spacer to 0.404"

10-Grind welds flush as per Dwg D2750

BE 12-01-09

SAD 12-01-09

BE 12-01-10

12-1-10

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1

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Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Spot face ground handling holes section (total of 4 places per side) as per
dwg D2750

12-Debur holes

170

QC10- Inspect visual per QSI004- ground welds

0.00

170

QC

Memo

0.00

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Quality Control

DP 12-1-10

8/17/11

8/17/11

W/O:		WORK ORDER CHANGES					
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N900040100

Setup Start ***NS1***

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Stop ***NS2***

Item Name: Skidtube LH

Start Date: 25/11/2011 Start Qty: 1.00

1

Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190 Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

① CF 12-1-12

200 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Powder Coating

Memo

0.00

START TIME: 3:50

OVEN TEMPERATURE: 320°F

FINISH TIME: 4:20

1X0 m-f 12/01/12

210 QC3- Inspect Part Finish

0.00

210

QC

Quality Control

Memo

0.00

Inspect for foreign object per QSI 024

1 BK 12-1-12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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November-25-11 3:12:46 PM

Item ID: D350-636-011 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Skidtube LH
 Start Date: 25/11/2011 Start Qty: 1.00 ***1*** Cust Item ID:
 Required Date: 09/12/2011 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	HandFinishing	0.00							
220									
HandFinish	Memo	0.00							
Hand Finishing	1- Install inserts as per Dwg D2750								1 BD 12-1-19
230	HandFinishing	0.00							
230									
HandFinish	Memo	0.00							
Hand Finishing	1-Inspect for Foreign Objects								
	2-Spray inside of tube with "LPS-3" batch: <u>N/A.</u>								
	3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750								
	SIKA FLEX 241								
	BATCH: <u>119508</u>								
	EXP DATE: <u>12-8</u>								
	4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube								
	A/R 55-o'ring lube batch: <u>110348</u>								
	5-Coat all exposed fasteners with "LPS Procyon" batch: <u>114596</u>								

Dart Aerospace Ltd

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Setup Start

NS1

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Stop

NS2

Item Name: Skidtube LH

Start Date: 25/11/2011 Start Qty: 1.00

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Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	QC5- Inspect part completeness to step on W/O	0.00							
240									
QC	Memo	0.00							
Quality Control									
250	Pick Kit	0.00							
250									
Packaging	Memo	0.00							
Packaging									
260	QC4- 100% Inspect kits for completeness	0.00							
260									
QC	Memo	0.00							
Quality Control	*****ensure antiscize is on AN8C21A bolts*****								

8/26/13

8/26/13

8/26/13

W/O:		WORK ORDER CHANGES					
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Cust Item ID:

Required Date: 09/12/2011 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
270		0.00							
270	Packaging	0.00				12/1/25			
Packaging	Memo								
Packaging	Package as per PPP D350-636-011								
280		0.00							
280	QC21- Final Inspection - Work Order Release	0.00							
QC	Memo								
Quality Control									

12-01-24

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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November-25-11 3:12:50 PM

77132

D350-636-011

Required Date: 09/12/2011

Required Qty: 1.00

44

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

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Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

211.0000

8

8

NAS1611-010

**

O-RING

BR 12-1-19

Location

Loc Qty

Loc Code

FP

120121

211

110915

14

117460

8

118077

1

118612

3

119438

135

119623

50

8

NAS1149D0863J

Purchased

No

250

Each

198.0000

2

2

NAS1149D0863.J

**

WASHER

C

Location

Loc Qty

Loc Code

ST298

198

118078

98

119307

100

118078

D2744

Manufactured

No

110

Each

47.0000

1

1

D2744

**

Cap

BE12-01-09

Location

Loc Qty

Loc Code

LG002

13

62715

1

70881

12

WA

34

71861

34

1

Dart Aerospace Ltd

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D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110

Each

21.0000

D2600-3-BENT

Extrusion Bent

1 1
** B 1 12/01/08

77623

Location

Loc Qty

Loc Code

LG

21

66875

8

73253

1

75021

4

75022

7

75023

1

D2743

Manufactured No

160

Each

279.0000

D2743

Crossbolt Spacer

8 8
** BE12-01-10

Location

Loc Qty

Loc Code

LG

269

71839

5

73403

64

74445

100

76141

100

LG001

10

67766

4

68251

6

D2739

Manufactured No

160

Each

11.0000

D2739

350 I Beam

1 1
** SAD 12-01-09

Location

Loc Qty

Loc Code

LG

11

72155

1

76140

3

76866

4

76867

3

B77621

1

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3490-3 Manufactured No

160 Each 74.0000 4 4

D3490-3

Cross Bolt Spacer

**

BE 12-01-10

Location Loc Qty Loc Code

LG 34

76234 34

LG001 40

74877 40

D3490-1 Manufactured No

160 Each 98.0000 4 4

D3490-1

Cross Bolt Spacer

**

BE 12-01-10

Location Loc Qty Loc Code

LG 4

67773 4

LG001 94

62450 2

74875 64

76233 28

ALS4-1032-225 Purchased No

220 Each 1,873.000 38 38

ALS4-1032-225

Insert

**

12-1-19

Location Loc Qty Loc Code

ST281 1873

108696 281

110768 62

118386 858

118966 672

38.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3793-3 Manufactured No

230 Each 24.0000 1 1

D3793-3

Wearshoe

**

BR 12-1-19.

Location

Loc Qty

Loc Code

FP001

24

74528

8

74593

4

75043 ✓

12

AN8C35A Purchased No

230 Each 96.0000 1 1

AN8C35A

BOLT

**

BR 12-1-19.

Location

Loc Qty

Loc Code

FP

64

115960

1

118286

63

ST345

31

117834 ✓

31

ST346

1

114442

0

115188

0

115960

1

D3793-1 Manufactured No

230 Each 20.0000 1 1

D3793-1

Wearshoe

**

BR 12-1-19

Location

Loc Qty

Loc Code

FP001

12

75038 ✓

12

FP018

8

74591

8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3488-041

Manufactured No

230

Each

21.0000

1

1

D3488-041

Blade Fitting Assembly, LH

**

BL 12-1-12

Location

Loc Qty

Loc Code

FG008

9

75056

9

FP

4

69903 ✓

4

FP007

1

61689

1

FP008

7

67788

1

71887

6

D3794-3

Manufactured No

230

Each

23.0000

1

1

D3794-3

Gasket

**

BL 12-1-19

Location

Loc Qty

Loc Code

FP002

23

74530

9

74596 ✓

14

AN6C44A

Purchased No

230

Each

95.0000

4

4

AN6C44A

BOLT

**

BL 12-1-19

Location

Loc Qty

Loc Code

FG

2

103964

2

ST343

93

118985

40

119125 ✓

30

119530

23

4,

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-25-11 3:12:50 PM

Page 7

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

87.0000

1

1

MS21083C8

**

BL 12-1-19.

NUT

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

1

118077

1

ST303

85

115884

0

118614

32

119309

3

119436

25

119638

25

D3536-25

Manufactured

No

230

Each

31.0000

1

1

D3536-25

**

BL 12-1-19.

Gasket

Location

Loc Qty

Loc Code

FP012

31

74595

5

75039

26

D3631-1

Manufactured

No

230

Each

471.0000

8

8

D3631-1

**

BL 12-1-19.

Washer

Location

Loc Qty

Loc Code

ST072

471

68062

2

75548

469

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 8

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3791-1

Manufactured No

230

Each

31.0000

1

1

D3791-1

**

Wearplate

BL 12-1-19

Location

Loc Qty

Loc Code

FP002

16

75041

16

FP017

15

62239

2

74527

1

74598

12

AN960C10L

R

NAS1149C0332

Purchased

No

230

Each

0.0000

38

38

***AN960C10I ***

**

washer

38

BL 12-1-19

D2745

Manufactured No

230

Each

109.0000

8

8

D2745

**

Bushing

BL 12-1-19

Location

Loc Qty

Loc Code

FP

73

69529

1

74446

72

ST021

36

71835

36

8.

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 9

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

AN3CSA

Purchased

No

230

Each

1,297.000

34

34

AN3C5A

Bolt

**

BL 12-1-19.

Location

Loc Qty

Loc Code

FP

7

115835

7

ST350

1290

116419

28

117343

17

117764

52

117872

2

118451

191

119127

500

119749 ✓

500

34

D3537-1

Manufactured

No

230

Each

42.0000

3

3

D3537-1

Wearpad

**

BL 12-1-19.

Location

Loc Qty

Loc Code

FP002

35

77036.

74436

30

74597

5

FP017

7

69817

5

70686

2

3

NAS1149C0832R

Purchased

No

230

Each

328.0000

1

1

NAS1149C0832R

WASHER

**

BL 12-1-19.

Location

Loc Qty

Loc Code

ST297

328

114915 ✓

328

1

November-25-11 3:12:50 PM

Shop Packet Print

Page 9

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

AN3C6A

Purchased

No

230

Each

344.0000

4

4

AN3C6A

BOLT

12-1-19

Location

Loc Qty

Loc Code

FP

1

111982

1

ST350

100

119449 ✓

100

ST351

243

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

88

119749

100

NAS1611-013

Purchased

No

230

Each

180.0000

8

8

NAS1611-013

O-RING

12-1-19

Location

Loc Qty

Loc Code

FP

180

116582

5

117291

2

117887

53

119307

76

119438

2

119623

42

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 11

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3535-25

Manufactured No

230

Each

27.0000

1

1

D3535-25

**

Wearshoe

BL 12-1-19

Location

Loc Qty

Loc Code

FP001

17

74525

5

75040 ✓

12

FP018

10

62233

1

74592

9

D3794-1

Manufactured No

230

Each

41.0000

1

1

D3794-1

**

Gasket

BL 12-1-19

Location

Loc Qty

Loc Code

FP014

41

74529

1

74594

12

75042 ✓

28

MS21043-6

Purchased No

230

Each

437.0000

4

4

MS21043-6

**

NUT

BL 12-1-19

Location

Loc Qty

Loc Code

FG

20

103693

20

ST300

417

112314 ✓

207

117887

10

118384

200

H.

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

D3493-1

Manufactured No

250

Each

51.0000

2

2

D3493-1

**

Washer

Location

Loc Qty

Loc Code

ST062

51

70697

4

71846

17

76237

30

76237

MS21083C8

Purchased

No

250

Each

87.0000

2

2

MS21083C8

**

NUT

Location

Loc Qty

Loc Code

FP-B

1

115884

1

ST293

1

118077

1

ST303

85

115884

0

118614

32

119309

3

119436

25

119638

25

119436

AN8C21A

Purchased

No

250

Each

61.0000

2

2

AN8C21A

**

BOLT

Location

Loc Qty

Loc Code

ST343

61

118045

7

118758

24

119530

30

119530

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November-25-11 3:12:50 PM

Work Order ID: 77132

77132

Parent Item: D350-636-011

D350-636-011

Parent Item Name: Skidtube LH

Start Date: 25/11/2011

Required Date: 09/12/2011

Start Qty: 1.00

Required Qty: 1.00

NAS1515H3L

Purchased

No

230

Each

143.0000

4

4

***NAS1515H3I ***

WASHER

**

BL 12-1-12

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

103

118686

3

119438 ✓

100

4

D2741

Manufactured

No

250

Each

11.0000

1

1

D2741

Blade, 350 Skidtube

**

[Signature]

Location

Loc Qty

Loc Code

ST

-2

71856

8

ST466

13

70667

3

71856

D3532-1

Manufactured

No

250

Each

42.0000

2

2

D3532-1

Spacer

**

6/2/01/230

Location

Loc Qty

Loc Code

ST065

42

73342

2

74880

40

74880

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- MATERIAL: MAKE D2750-11/21-31/4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: N/A
- IDENTIFICATION: N/A
- WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- WELD PER DART QSI 004
- INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 77132 M.L.J
11/11/25

RELEASED
6/27/22

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515HBL; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEG 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	RA	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
DRAWN	RA		
CHECKED	RA	DRAWING NO.	REV. F
MFG. APPR.	RA	D2750	SHEET 1 OF 11
APPROVED	RA	TITLE	SCALE
DE APPR.	RA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

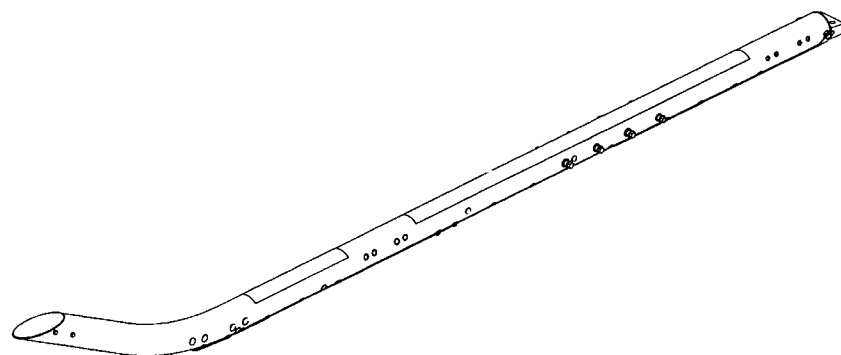
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

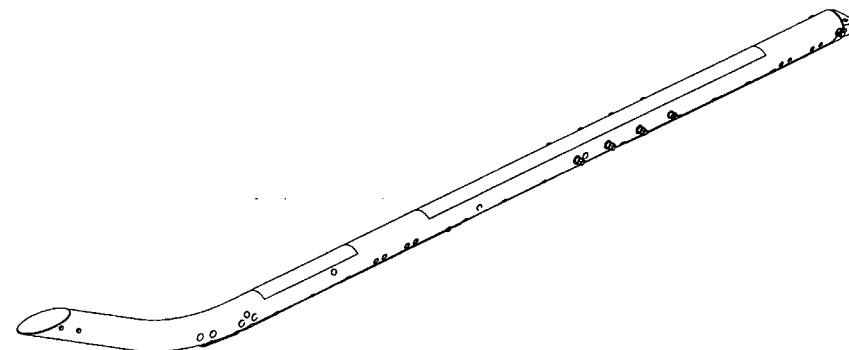
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

77132



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	AM	PORT HADLOCK, WA	
CHECKED	JA	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 2 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1988 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

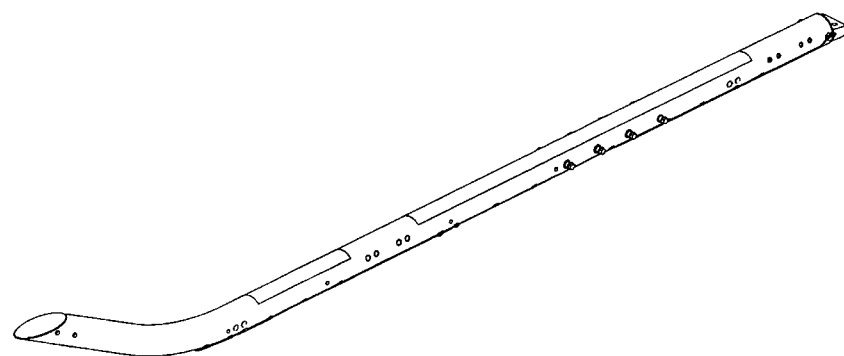
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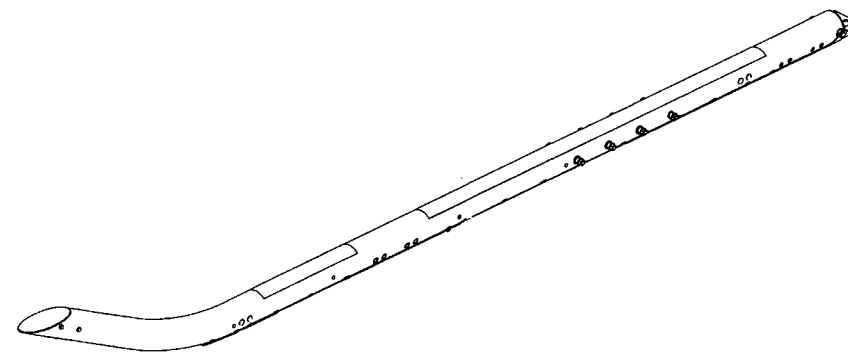
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

77132



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

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68-09-22/100

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DRAWN	PD	PORT HADLOCK, WA	
CHECKED	[Signature]	DRAWING NO.	REV. F
MFG. APPR.	[Signature]	D2750	SHEET 3 OF 11
APPROVED	[Signature]	TITLE	SCALE
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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

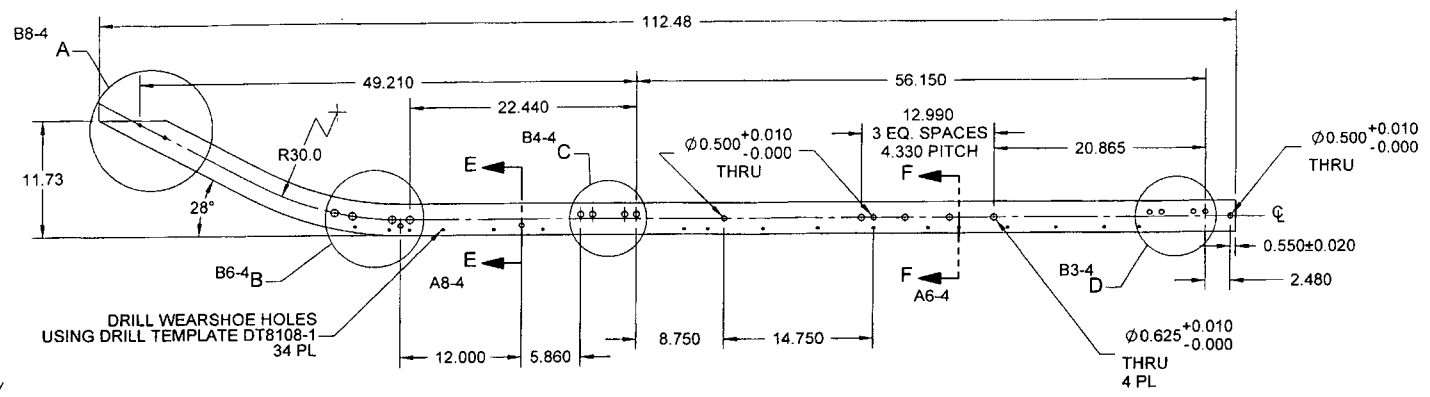
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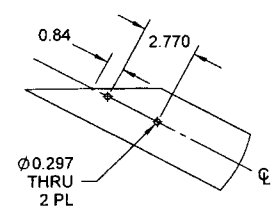
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

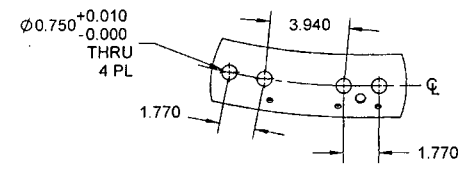
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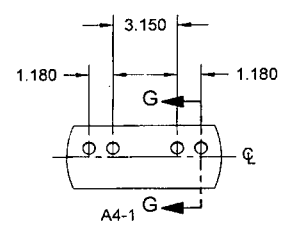
D2750-1 LH SKIDTUBE



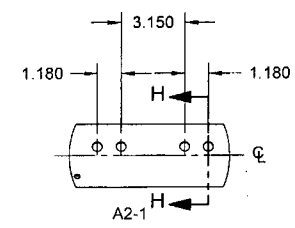
DETAIL A
SCALE 2X



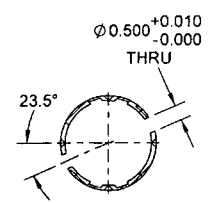
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SCALE 2X



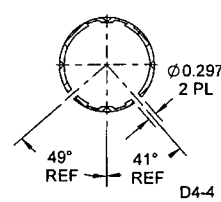
DETAIL C
SCALE 2X



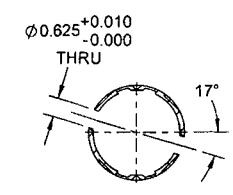
DETAIL D
SCALE 2X



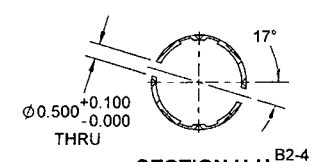
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

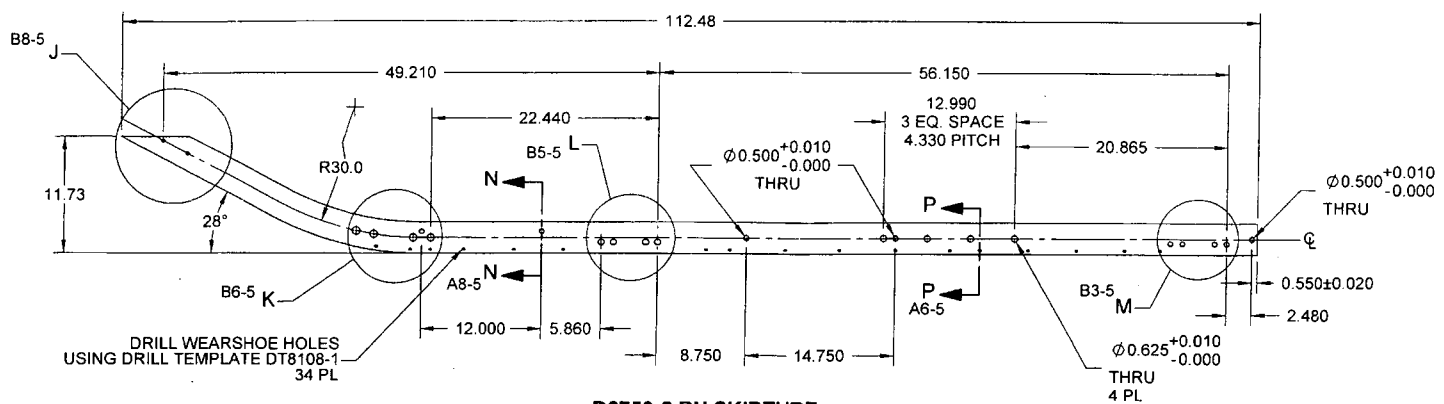
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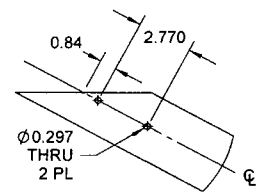
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

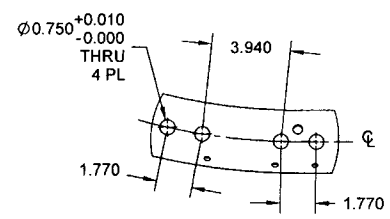
77132



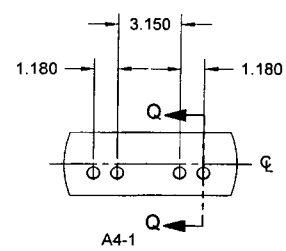
D2750-2 RH SKIDTUBE



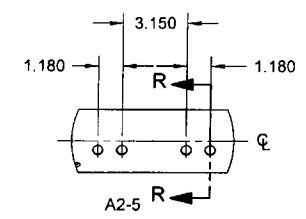
DETAIL J
SCALE 2X



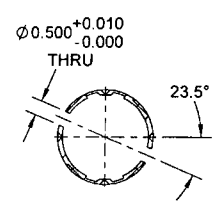
DETAIL K
SCALE 2X



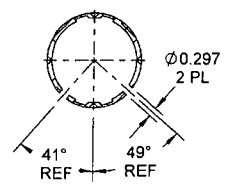
DETAIL L
SCALE 2X



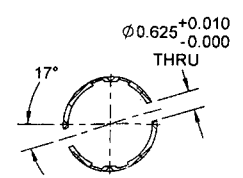
DETAIL M
SCALE 2X



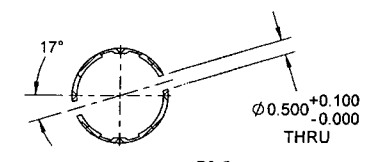
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

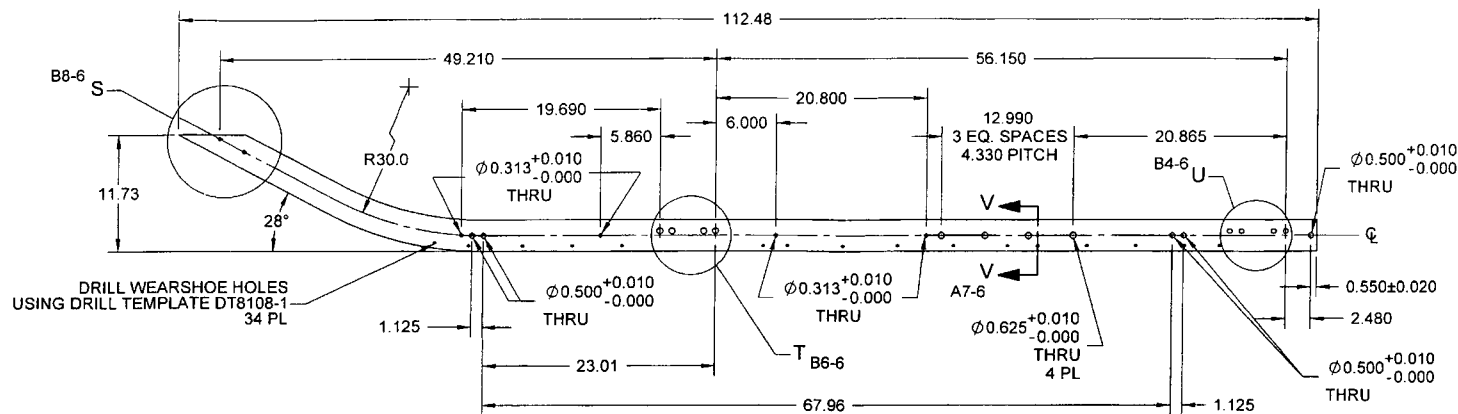
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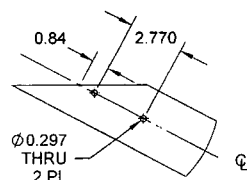
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

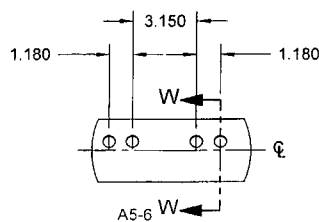
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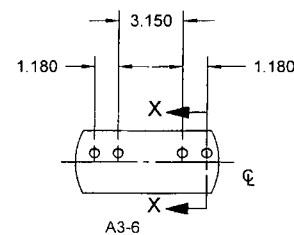
D2750-3 LH SKIDTUBE



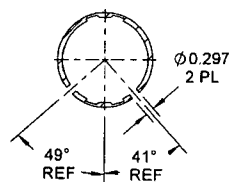
DETAIL S
SCALE 2X



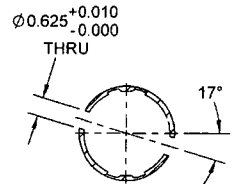
DETAIL T
SCALE 2X



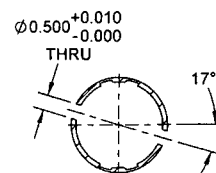
DETAIL U
SCALE 2X



SECTION V-V
SCALE 3X, 17 PL



SECTION W-W
SCALE 3X, 4 PL



SECTION X-X
SCALE 3X, 4 PL

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

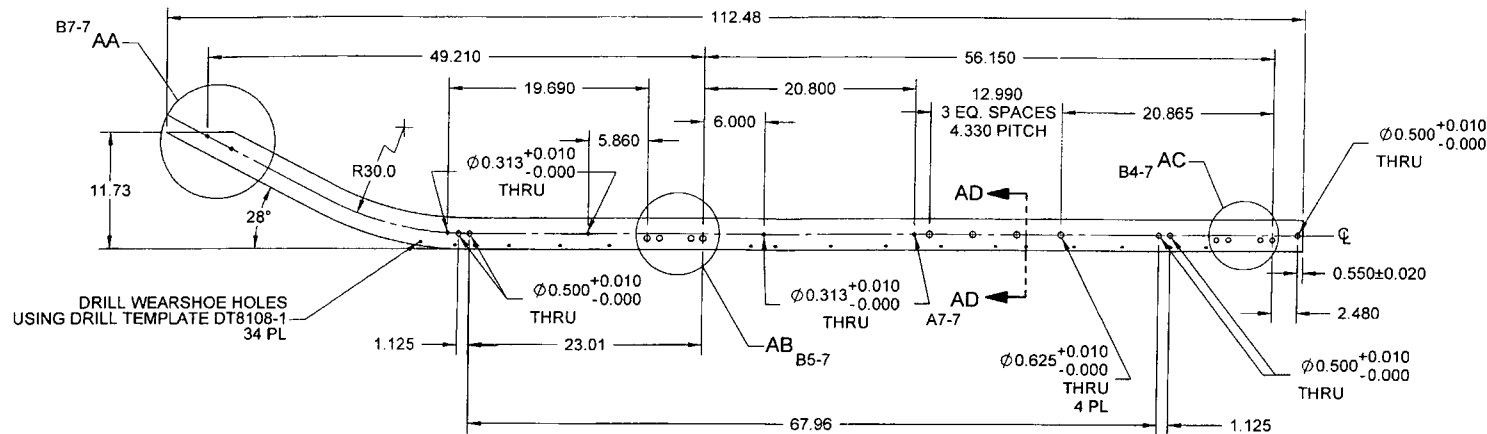
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

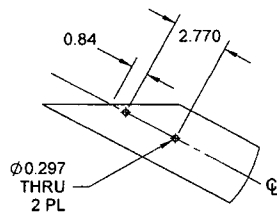
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

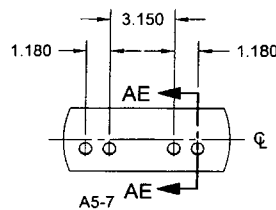
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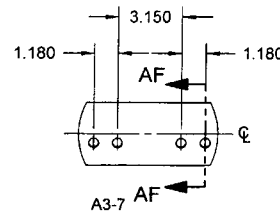
D2750-4 RH SKIDTUBE



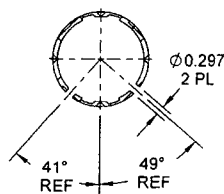
DETAIL AA
SCALE 2X



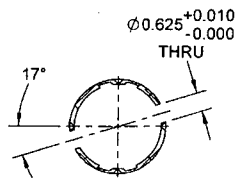
DETAIL AB
SCALE 2X



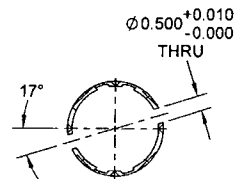
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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08-04-22

DESIGN	PA	DART AEROSPACE USA, INC.	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

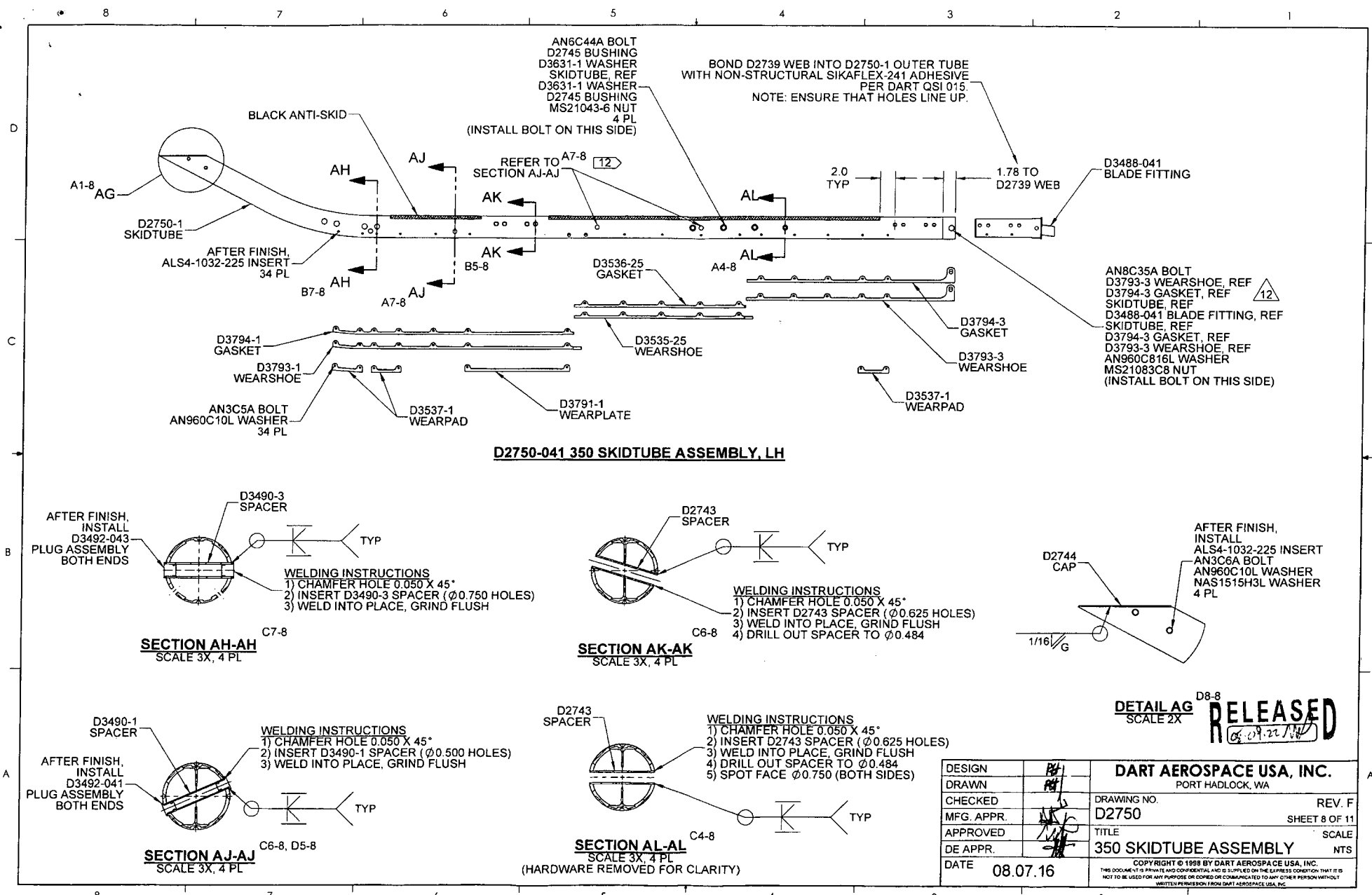
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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D8-8
SCALE 2X

DESIGN	REV. F	DART AEROSPACE USA, INC.	
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CHECKED		DRAWING NO.	REV. F
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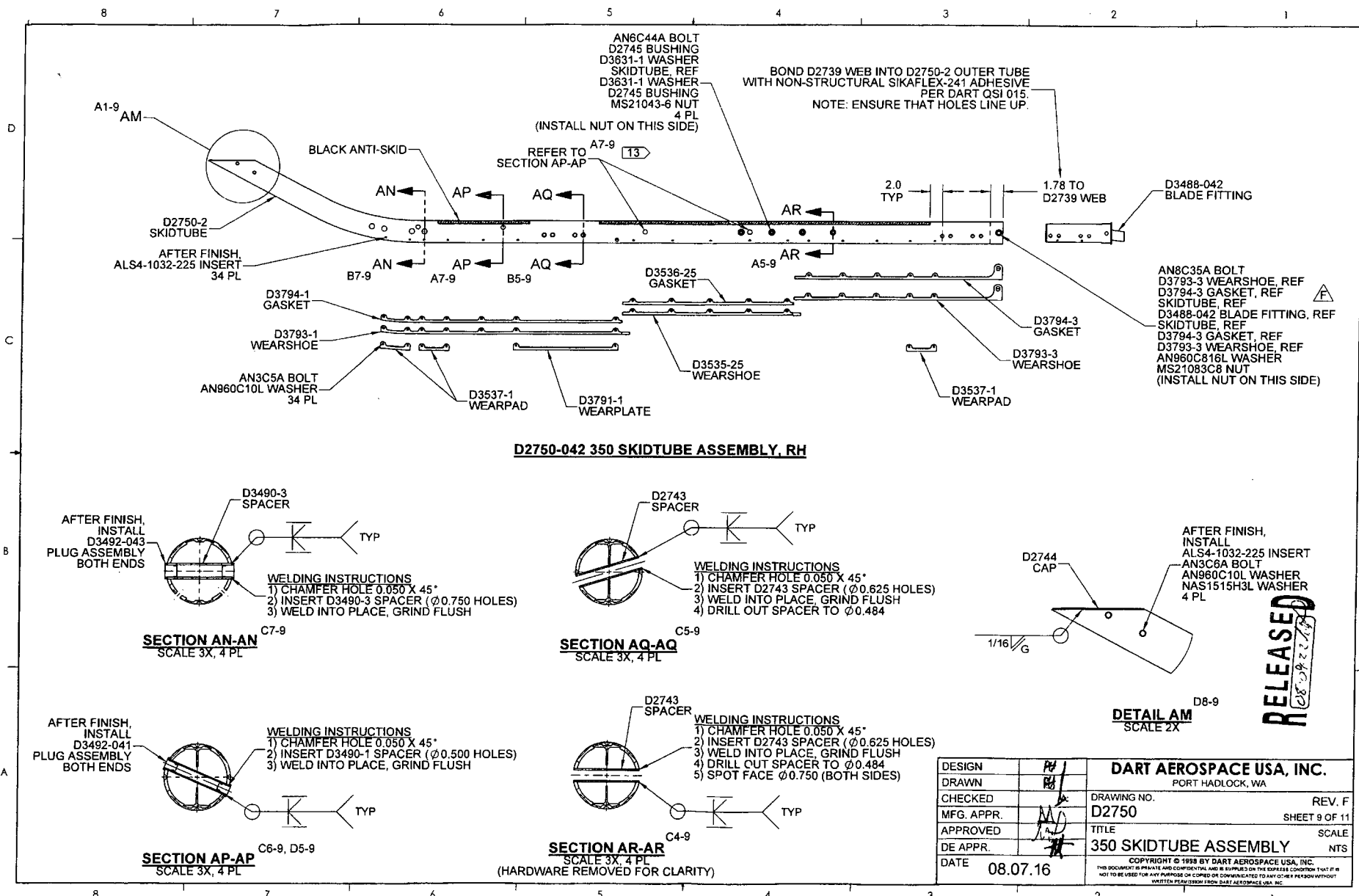
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

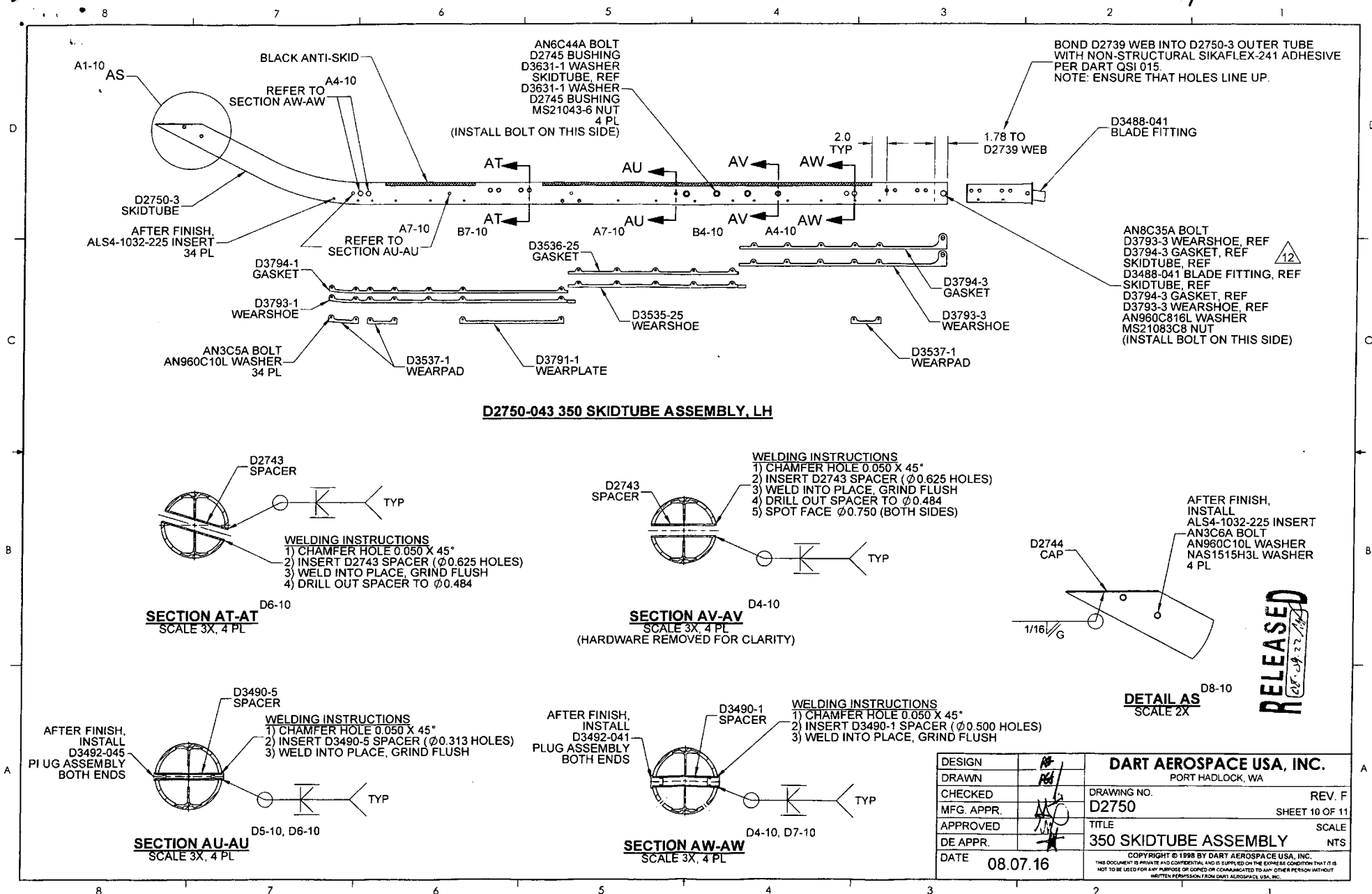
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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RELEASED
28 JUN 2017

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

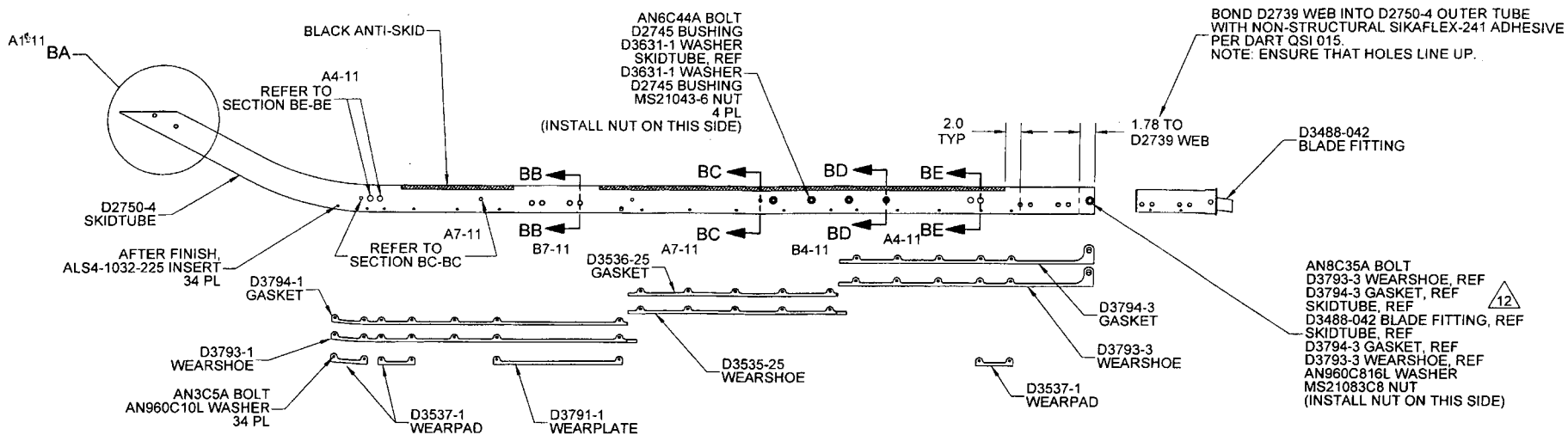
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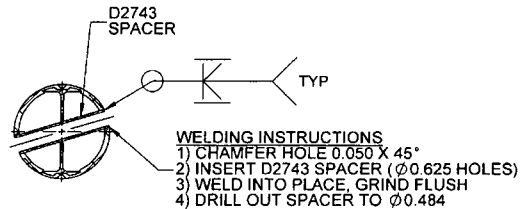
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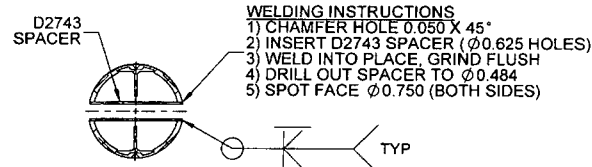
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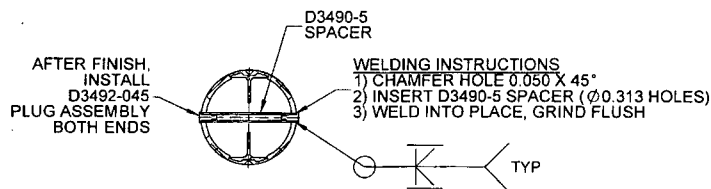
D2750-044 350 SKIDTUBE ASSEMBLY, RH



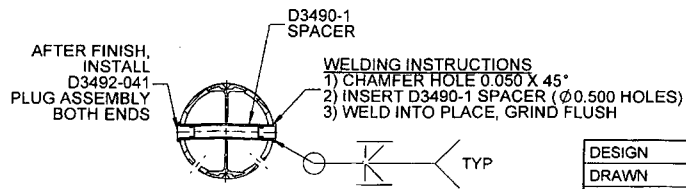
SECTION BB-BB
SCALE 3X, 4 PL



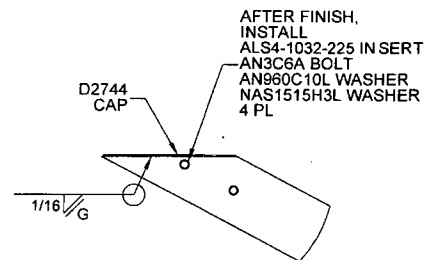
SECTION BD-BD
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)



SECTION BC-BC
SCALE 3X, 4 PL



SECTION BE-BE
SCALE 3X, 4 PL



DETAIL BA
SCALE 2X

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 279

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 77362
Part number: D 350 636 012
Description: 350 skid tube
Welding Process: Tig ☒ Mig ☐
Base material: aluminum
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐
Undercut: pass ☒ fail ☐
Pin holes: pass ☒ fail ☐
Overlap (cold lap): pass ☒ fail ☐
Porosity (surface): pass ☒ fail ☐
Coloration: pass ☒ fail ☐

Qualifier Pat Furr Date of Test Coupon 11.12.22

Welder Barclay Elliott Date of Test Coupon 11.12.22

The above named individual is qualified in accordance with AWS D17.1.2001 to weld